Amendments to the Claims:

1. (Currently Amended) A calcium channel $\alpha_2\delta_2$ subunit wherein:

   (a) ~~l~~it is soluble and retains the functional characteristics of the full-length or wild type human $\alpha_2\delta_2$ subunit from which it derives;

   (b) its δ_2δ peptide has a C-terminal truncation with respect to the complete δ_2δ peptide from which it originates the amino acid sequence consisting of SEQ ID NO: 4, SEQ ID NO: 5 or SEQ ID NO: 6, said truncation being sufficient to render the truncated δ_2δ peptide soluble; and

   (c) its α_2 peptide comprises at least the ligand-interacting part(s) of the complete α_2 peptide from which it derives.

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. (Previously Presented) A calcium channel $\alpha_2\delta_2$ subunit according to claim 1, wherein the full-length or wild-type $\alpha_2\delta_2$subunit from which it derives is naturally expressed in the cerebral cortical.

6. (Previously Presented) A calcium channel $\alpha_2\delta_2$ subunit according to claim 1, wherein the full-length or wild-type $\alpha_2\delta_2$ subunit from which it derives is voltage-dependent.

7. (Previously Presented) A calcium channel$\alpha_2\delta_2$ subunit according to claim 1, wherein the $\alpha_2\delta$ subunit is cleaved.

8. (Currently Amended) A calcium channel $\alpha_2\delta_2$ subunit according to claim 1, wherein the $\alpha_2\delta_2$ subunit is cleaved into separate α_2 and δ_2δ peptides.

9. (Previously Presented)) A calcium channel $\alpha_2\delta_2$ subunit according to claim 1, wherein the α_2 and δ peptides are disulfide-bridged.

10. (Previously Presented) A calcium channel $\alpha_2\delta_2$ subunit according to claim 1, wherein the $\alpha_2\delta_2$ subunit is not cleaved.

11. (Previously Presented) A calcium channel $\alpha_2\delta_2$ subunit according to claim 1, characterized in that it is purified or isolated.

12. (Previously Presented) A calcium channel $\alpha_2\delta_2$ subunit according to claim 1, characterized in that it is processed as the full-length or wild-type $\alpha_2\delta_2$ subunit from which it derives.

13. (Presently Presented) A calcium channel $\alpha_2\delta_2$ subunit according to claim 1, characterized in that it is producable by a baculovirus/insect cells expression system.

14. (Previously Presented) A calcium channel $\alpha_2\delta_2$ subunit according to claim 1, characterized in that it is produced by the baculovirus/insect cells expression system.

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Previously Presented) A calcium channel $\alpha_2\delta_2$ subunit according to claim 1, characterized in that ligand is gabapentin, L-Norleucine, L-Allo-Isoleucine, L-Methionine, L- Leucine, L-Isoleucine, L-Valine, Spermine or L-Phenylalanine.

19. (Currently Amended) A calcium channel $\alpha_2\delta_2$ subunit according to claim 1, characterized in that its α_2 peptide comprises at least the ligand-interacting part (s) of the complete α_2 peptide from which it derives, its $\underline{\delta_2}\delta$ peptide comprises at least the ligand- interacting part (s) of the complete δ peptide from which it derives, and its $\underline{\delta_2}\delta$ peptide does not comprise a part of the transmembrane domain of the complete $\underline{\delta_2}\delta$ peptide from which it derives which renders said calcium channel insoluble.

20. (Previously Presented) A calcium channel $\alpha_2\delta_2$ subunit according to claim 1, wherein the full-length or wild-type $\alpha_2\delta_2$ subunit from which it derives is *$\alpha_2\delta$-2*.

21. (Canceled)

22. (Previously Presented) A calcium channel $\alpha_2\delta_2$ subunit according to claim 20, characterized in that the amino acid sequence of its unprocessed form consists of SEQ ID NO: 4, SEQ ID NO: 5 or SEQ ID NO: 6.

23. (Canceled)

24. (Canceled)

25. (Canceled)

26. (Canceled)

27. (Canceled)

28. (Canceled)

29. (Canceled)

30. (Canceled)

31. (Canceled)

33. (Canceled)

34. (Canceled)

35. (Currently Amended) A calcium channel $\alpha_2\delta_2$ subunit characterized in that its α_2 peptide and its $\underline{\delta_2}\delta$ peptide have 99%, 98%, 97%, 96%, or 95% homology or identity with the α_2 peptide and the $\underline{\delta_2}\delta$ peptide respectively of a calcium channel $\alpha_2\delta_2$ subunit according to claim 1.

36. (Canceled)

37. (Canceled)

38. (Canceled)

39. (Canceled)

40. (Canceled)

41. (Canceled)

42. (Canceled)

43. (Canceled)

44. (Canceled)

45. (Canceled)

46. (Canceled)

47. (Canceled)

48. (Canceled)

49. (Canceled)

50. (Canceled)

51. (Canceled)

52. (Canceled)

53. (Canceled)

54. (Currently Amended) A calcium channel $\alpha_2\delta_2$ subunit according to claim 1 wherein the amino acid sequence consists of SEQ ID NO: 4, SEQ ID NO: 5 or SEQ ID NO: 6 and its α_2 peptide and its $\underline{\delta_2}\delta$ peptide have 99%, 98%, 97%, 96%, or 95% homology or identity with the α_2 peptide and the $\underline{\delta_2}\delta$ peptide respectively of a calcium channel $\alpha_2\delta_2$ subunit.